

[WATER HAMMER ARRESTER, LIQUID SUPPLY APPARATUS AND METHOD OF PREVENTING WATER HAMMER EFFECT]

Abstract

A water hammer arrester, a liquid supply apparatus and a method of preventing water hammer effect are provided. The water hammer arrester arrests the water hammer effect in a pipeline linking up a liquid tank to a water supply point. The water hammer arrester comprises a pressure sensor, a proportional-integral-differential (PID) control module and a control valve. The pressure sensor is set between the liquid tank and the liquid supply point. The PID control module and the pressure sensor are connected together. The control valve is set in the pipeline with connection to the PID control module. The PID control module controls the operation of the control valve according to the signals received from the pressure sensor. The water hammer arrester relieves excess pressure within the pipeline automatically according to sensed internal pressure so that damage to the pipeline due to the sudden shut down of a check valve is prevented.